

While the present invention has been described above in terms of specific embodiments, it is to be understood that the invention is not limited to the disclosed embodiments. On the contrary, the present invention is intended for various modifications and equivalent structures included within the spirit and scope of the appended claims.

I, the inventor claims:

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1. A method to enable customers/purchasers to obtain fixed amount of stored monetary value in local currency in pre-paid cards from a plurality of point-of-sale locations and to use these pre-paid cards to conduct bill payments activities for both local and international transactions in their respective currencies through a payment service network using a World Wide Web server page connectable to a transaction processor or a tone telephone connectable to a call processor such as Interactive Voice Response Systems located at a remote host computer, the method comprising:

20 a World Wide Web server page connected to a transaction processor coupled to
the database of pre-paid card accounts, user accounts including service provider
accounts and to the Internet network, the web page receiving, from a data
terminal, access information used to identify the particular pre-paid card account

$$\frac{1}{\Gamma(\alpha)} \int_0^t (t-\tau)^{\alpha-1} f(\tau) d\tau = \mathcal{I}^\alpha f(t), \quad \alpha > 0, \quad t \geq 0, \quad f(0) = 0, \quad f \in C^1[0, \infty).$$

and user account to establish a payment transaction using the internet network, the transaction processor further reduce the amount associated with the particular pre-paid card account in correspondence with the payment transaction requested and authorised by the user;

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a call processor coupled to the database of pre-paid card accounts, user accounts including service provider accounts and to the telephone network, the call processor receiving, from a telephone, access information used to identify the particular pre-paid card account and user account to establish a payment transaction using the telephone network, the call processor further reduce the amount associated with the particular pre-paid card account in correspondence with the payment transaction requested and authorised by the user;

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each user or purchaser of these pre-paid cards may have an pre-assigned numbered account in the database with the host computer and security check such as password is required to access this accounts for operation purposes;

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each pre-paid card shall have an activation code associated and a security code which is hidden under scratch-through material on the card where both codes are transmitted by way of a data or telephone tone signal following a series of manual operation as dictated by the transaction or call processor through the telephone or through a computer/data keyboard by way of the Internet so that

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upon activation, each pre-paid card account will be assigned a transaction number for audit trail purposes with a different transaction number assigned for every transaction until the monetary amount stored in the pre-paid card is exhausted or upon termination by redemption for value;

receiving access information such as the user's account and password and the
10 pre-paid card's codes and payment codes sent from a data terminal or tone-
telephone to a transaction processor or call processor having access to the
database of pre-paid card accounts, merchants' accounts and user's account, the
transaction processor or call processor using the access information to establish
a particular one of the card accounts and to establish an electronic transaction
15 from the telephone or terminal using the telephone or Internet network;

receiving merchant specific payment codes from the merchant's system;

debiting the authorised monetary amount associated with the user's account of
20 one or more pre-paid card accounts in the user's account in accordance with the
payment code/transaction that the user has provided on payment network
through the telephone or data terminal subject to authentication of both the
payment codes by the host computer;

a transaction/call processor coupled to the database of pre-paid card accounts, user accounts and to the telephone network, the transaction/call processor receiving, from a terminal/telephone, access information used to identify the particular pre-paid card account and user account to establish a currency conversion transaction using the telephone/internet network, the transaction/call processor further convert the amount associated with the particular pre-paid card account in corresponding with request by the user.

reducing the pre-paid authorisation converted amount associated with the particular pre-paid card account in correspondence with the various transactions made in the network by crediting the corresponding service provider's or any account as requested by user;

the generation of special code known as the payment/transaction code by the

at the same instant, the generation of the special codes for payment/transaction-

10 the user is required to input the payment code so that both codes having a fixed period of expectancy are required for each payment transaction and the host computer will decrypt, authenticate and cross match both codes with a security algorithm to match the account to be credited to avoid false and invalid transactions.

2. A computer system for creating and managing pre-paid cards accounts and user accounts used to access a payment network using a telephone or data terminal, the system comprising:

a transaction/call processing unit coupled to the database of pre-paid card

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The host computer will wait for X to be sent from the buyer/payer by terminal or telephone to finalise the payment procedure.

3. A system for enabling customers to obtain pre-paid card and user accounts
5 from a plurality of point-of-sale locations and to use both the user accounts and pre-paid card accounts to access a payment network using a telephone or data terminal, the method comprising:

a database of pre-paid card accounts and user accounts located at a location
10 remote from the point-of-sale locations;

means wherein the real-time data transmission between the customer through
said host computer proceeds through telephone or network lines

15 means for storing a group of announcements or instructions including advertisement;

means to play audible/text/graphic product information files to the user when
waiting for a requested transaction to be completed;

20 means for receiving at least one signal from the pre-paid user to verify the user's pre-paid card account in response to a text announcement or voice instructions sent to the user through the telephone or data terminal;

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means for receiving at least one signal from the user to verify the user's account in response to an announcement or text instruction sent to the user through the telephone or data terminal;

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means for verifying the validity of the user's account number if the user is an exiting user otherwise will ask the user to set up an account as an alternative option;

10 means to ensure there is no conflict between an user account with another users' account;

means for determining if there is a predetermined amount of available funds associated with the account number for automatic deductions for regular pre-
15 arranged services such as water, electricity, gas etc as an optional arrangement between user and service provider and where there is sufficient funds, a payment transaction will be executed;

means for receiving and analysing a payment code or other transaction codes
20 from the pre-paid user and merchant through the telephone or computer network as the case maybe as an alternative option;

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means for determining if there is sufficient funds available in the use's account for a transaction of choice and if there is insufficient will ask user to promptly apply another pre-paid card to continue otherwise will terminate the transaction together with an error message to the merchant for notice;

means for completing a payment transaction from the pre-paid account if there
10 is sufficient available funds;

means to decrypt and verifying a payment code to identify the merchant , the payment amount and the buyer's account where the buyer has elected this as their payment option;

means for activating the particular pre-paid card in the database of pre-paid card accounts in response to receipt of the activation and security information;

means for receiving access information transferred from a telephone or data terminal and for identifying the particular pre-paid card account and user's account using the access information;

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means for setting a time sequence or the number of attempts when activation and security information or password and account number input sequence is being run for both pre-paid card and user accounts respectively;

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means for disconnecting the telephone call or terminal connection when the time sequence runs out or number of attempts exceeded because of wrong inputs;

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means for establishing a payment transaction from the telephone or data terminal to a desired merchant or service provider using the telephone/Internet network;

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means for transferring the active authorisation monetary amount associated with the particular pre-paid card account or the monetary stored amount in the user's account as the case may be in correspondence with the amount requested by the user or the transacted amount as billed by the payment code, and for terminating access to the payment network when the transaction is completed as

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well as issuing a code receipt number to payer and merchant as reference before termination;

means to transfer the stored monetary amount in the pre-paid card or user
5 account to another user account as a payment transaction;

means to generate and encrypt payment codes for verification for payment transaction by merchants in the payment network;

10 means for the host computer to identify the call phone's or terminal's physical address or location and alert appropriate authorities;

means for preventing unauthorised access to the host computer;

15 means for new services to be created and changed on-line by the operator;

means for a real-time resource consumption indicator for real-time billing for products and services provided;

20 means for the host computer server to serve a plurality of users simultaneously;

and means to access gateway to the internet and enable all the above means in the form of a world wide web interface.

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4. A computerised system or program of claim 2 at the remote host computer use to facilitating the activation of pre-paid cards and to track usage of the pre-paid cards, to perform book entries for transaction requested, to create trial
5 codes, to decrypt, verify payment codes and issue receipt codes, the computerised system or program comprising:

- a backup computer for the host computer,
- 10 a database storing information associated with a plurality encrypt or otherwise, pre-paid cards accounts, user accounts, activation codes, security codes, merchant codes, transaction entries/codes, product information audio/text/graphic files, algorithms to decrypt, verify all the above codes and linking these codes to their respective owners and amounts, formulae to
15 calculate "stored value" including their variables, foreign exchange rates, interest rates associated with the varies currencies, able to perform addition, multiplication, division and minus operations within the accounts when required;
- 20 a host computer coupled to the database and having a port connected to a telephone network and/or internet gateway, the host computer receiving activation and security information associated with a particular pre-paid card via the telephone/internet network, the activation and security information being

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used to identify the particular pre-paid card and its stored amount, the particular pre-paid card being associated with a distributor of the particular pre-paid monetary card, the host computer activating the particular pre-paid card in the database in response to receipt of the activation and security information by
5 associating an active call or connection authorisation amount with the particular pre-paid card;

a host computer coupled to the database and having a port connected to a telephone network or Internet gateway, the host computer receiving password
10 information associated with a particular user via the telephone/internet network, the password information being used to identify the particular user and its account's stored amount;

a transaction/call processor coupled to the database and to the telephone or
15 internet network to receive access information transferred from a telephone or computer terminal, the access information being used by the transaction/call processor to identify the particular pre-paid card access followed by the particular user and to establish a requested transaction from the telephone/computer terminal to pay a merchant by inputting a set of payment
20 code numbers, upon verification of the payment codes including merchant specific codes, the host computer transferring the authorised amount associated with the particular pre-paid card or user's account as the case maybe in

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correspondence with the amount ascribed in the payment transaction to the merchant's account and terminating call/access; and

5 a transaction/call processor coupled to the database and to the telephone or internet network to receive access information transferred from a telephone or data terminal, the access information being used by the transaction/call processor to identify the pre-paid card, particular user and to establish a "stored value" transaction in either local or foreign currency denomination from the telephone and transferring the 'stored value' into an account which requires the
10 payee's account number which may include the owner of the pre-paid card, the host computer transferring the authorised amount associated with the particular pre-paid card into the account and halting communication at the end.

5. An interactive voice response system and transaction processor system of
15 claim 1 that allows a user to conduct payment in any currencies, by telephone or data terminal, comprising:

a host computer maintaining accounts for the user, merchant, transaction accounts and pre-paid cards accounts;

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responding with voice or text menu selection to a pre-paid user over the telephone or terminal regarding instructions about how to make a pre-paid payment;

- 5 voice/text menu means, responsive to user inputs, for providing the user a
voice/text menu of a plurality of available transaction options;

menu selection means for allowing the user to select a menu of one or more of said available transaction options by entering at least a numeric

- 10 number/alphabet corresponding to one or more of said available transaction
options; and

means for allowing the user to select any of one or more said available transaction options presented in the voice/text menu by providing an input into

- 15 the system;

completing the payment transaction from the pre-paid user in response to prompts made by the announcements;

- 20 means for prompting the user to enter the activation information if the user has a
pre-paid card;

means for collecting the activation information;

means for identifying the pre-paid card account based on the activation information and means for prompting the user to enter the security information;

- 5 means for collecting the security information code, and means for verifying the security information code is correct for the particular pre-paid card;

means for prompting the user to enter a user identifier if the user has an account;

- 10 means for collecting the user identifier;

means for identifying the user based on the user identifier and means for prompting the user to enter a password identification code;

- 15 means for collecting the password identification code, and means for verifying the password identification code is correct for the user;

- means determining whether the user is a new user, means for prompting new users to select a unique password identification code and means for allowing
20 users that are not new users to bypass the means for prompting new users to select a unique password identification code;

means for allowing the user to receive audio/text information concerning the

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user's account and the pre-paid card, including account balance information and fund transfer information or advertising audio/text/graphic files during or between prompts or inactivity by the host computer via the telephone or terminal receiver;

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means for providing voice/text prompt that supply audio/text/graphic information to the user, and request data from the user; said means for providing voice/text/graphic prompts including means for providing voice/text prompts that present the user with a sequential listing of available transaction options;

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means for allowing the user to select any of the plurality of available transaction options by providing an input into the system in response to one of said voice/text prompts; the user to select any of one or more available transaction options includes means for prompting the user to press a particular key of a telephone or data terminal's keyboard;

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wherein one of the available transaction options is bill payment and the system further includes means for allowing the user to select a payee, the means for allowing the user to select a payee by way of providing an input such as a transaction/payment code if it is a bill payment or the payee's account number or as the case may be the payee's name for a straight transfer through the telephone or data terminal;

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wherein one of the available transaction options is bill payment in a foreign currency and the system further includes means for allowing the user to select a currency, the means for allowing the user to select a particular currency by providing an input into the system in response to one of the said voice/text prompts that represent the currency from a list of currencies through the telephone or computer terminal,

means for user to either agree or reject the transaction in progress in response to one of the said sequential voice/text prompts or reject/end by disconnection.

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6. The interactive voice response system of claim 1, further comprising means for connecting the user to the advertiser's call centre in response to a voice prompt input when an advertisement or announcement is played during processing information.

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7. The interactive voice response system and transaction processor system of claim 1, further comprising means for allowing the user to select or change said password identification code and means for confirming that said password identification code is not the same as other user identification codes.

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8. The interactive voice response system and transaction processor system of claim 1, further comprising means for allowing the user to select or change said password identification code and means for confirming that a new password

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9. An interactive voice response system according to claim 1, wherein said means for providing voice prompts includes a voice processing system that generates voice messages and processes user input.

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